

Abstract

A battery ECU estimates the SOC by integrating the battery current measured by a current sensor, and the battery voltage V_n is measured by a voltage sensor and the battery temperature T_n is measured by a thermometer if the fluctuation of the charging/discharging current is great (S204). If the number m of estimations of SOC_n is $m < 10$, m is incremented (S208). The battery internal resistance R_n is estimated from the measured battery temperature T_n by using a correlation map showing the correlation between the previously stored battery temperature T and the battery internal resistance R (S210). An estimation charging/discharging current I_n is determined using the measured battery voltage V_n , the battery open voltage V_{ocvn-1} determined on the basis of the previously estimated charged state, and the estimated battery internal resistance R_n (S212). The SOC_n is estimated by integrating the estimated charging/discharging current I_n (S214). If the number of estimations of the SOC_n is $m = 10$ (S206), the number of estimations is changed to 0 (S220). The charging/discharging current i_n is measured by a current sensor (S222). The battery internal resistance R_n is calculated from the battery voltage V_n and the charging/discharging current i_n (S224). The battery temperature T_n is also measured, and the T - R correlation map is corrected (S226).